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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,535	12/01/2000	Jac Chang Jung	000939-078800US	5110

20350 7590 11/22/2002

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EXAMINER

HAMILTON, CYNTHIA

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 11/22/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09-728/535

Applicant(s)

Jung et al

Examiner

C. Hamilton

Group Art Unit

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AS 8

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on July 26, 2002
- ☒ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-21 is/are pending in the application.
- ☐ Of the above claim(s) 14-21 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-13 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☒ Claim(s) 1-21 are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

DETAILED ACTION

1. No claims have been cancelled. Claim 21 has been added.
2. Because claim 21 is drawn to a process imaging, i.e. "a method for producing a substantially vertical photoresist pattern during a photolithography process", it is placed with Group II described in paragraph one in the last Office Action mailed March 19, 2002.
3. Applicants again traverse the restriction requirements made in Paper No. 44, mailed March 19, 2002. The requirement was deemed proper in Paper No. 6 and made final at the time by this examiner. The added arguments are the same, essentially as these given on April 22, 2002 by applicants. Thus, the examiner's response is the same as given on May 1, 2002 in Paper No. 6 applicants argue the search for Group and I are essentially the same and that a "thorough search for compositions of Group I requires a search using these compositions as well. The examiner has already stated Office procedure would require rejoinder if the composition were found novel. Since this is not the case, the restriction stands as final as set forth in the last Office Action.
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 4-8, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Gibson et al (4,003,870).

The examples 3-5 of Gibson et al wherein ammonia is the instant basic compound and amine as set forth by applicants in instant claim 7 wherein R_{1-3} is H. the amphiphathic polymer of Example 1 wherein methyl methacrylate is used to form the water soluble polymer as a Thickener Solution A. Example 6 also shows using ethylacrylate and 2-ethyl hexyl acrylate as part of the polymeric thickener. Thus, the paint latexes of Gibson et al anticipate the over-coating compositions of applicants' claims 1-2, 4-8 and 12 wherein the paint compositions are inherently useful for the intended purpose of coating a photoresist composition to provide a vertical photoresist pattern. The examiner notes that amendments newly presented to claims made this rejection necessary.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner is confused as to what is encompassed by the term “basic compound” in applicant’s claims. The confusion arises by applicant’s use of “hydroxy salt” in claim 6 “tertralkylammonium hydroxide” and calling “tertrammonium hydroxide” and “tetramethyl ammonium hydroxide pentahydrate” as salt in claim 10. Applicants have not defined “salt” in their application. Thus, the art recognized meaning of salt is considered what is meant here. Grant et al define salts as “substances produced from the reaction between acids and bases” or “a compound of a metal (positive) and nonmetal (negative) radical: $M.OH$ (base) + HX (acid) = MX (salt) + H_2O (water). There are defined “alkaline”, i.e. alkaline salts in Grant et al which are salts having a basic reaction and “basic”, i.e. basics salts, which are salts containing unreplaced hydroxyl radicals of the base; as $Bi(OH)Cl_2$ and “neutral”, i.e. neutral salts as salts having a neutral reaction, as potassium chloride or “normal”. i.e. normal salts, as compounds of a base and acid compounds of a base and acid that have completely neutralized each other”. The ‘CRC’, i.e. Handbook of Chemistry and Physics 52nd edition, defines ‘salt’ as “any substance which yields ions, other than hydrogen or hydroxyl ions.” The CRC further states “a salt is obtained by displacing the hydrogen of an acid by a metal”. Tetramethyl ammonium hydroxide is not a salt clearly by some of these definitions such as that of CRC. It cannot be a basic salt as defined by Grant et al because it is mono valent having no other anion than – OH. Thus, what is encompassed by “basic” if it is to be “bases” is confused by the use of “hydroxy salt” when in

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reference to an amine in claim 6 and tertramethylammonium hydroxide as a salt in claim 1. The examiner has already questioned this terminology in Paragraph 5 of the previous Office action mailed May 1, 2002. She now questions the term again in view of applicant's amendments. She is unsure what is meant by "salt" as used by applicants and thus is unsure what is meant by "basic" when used in relationship to salt. Thus, all claims 1-13 are held confusing.

10. The examiner accepts applicants explanation as to the meaning of "alkyl". It means any aliphatic hydrocarbon which can be straight or branched chain and is substituted with anything as set fort generally on page 6 of the instant specification. This pertains to "alkyl" in "alkyl acrylate" in claim 1 as now amended as well. It is not limited to alkyl in only claim 7.

11. The examiner notes for the record that the only basic compound directly added in a working example in the instant specification is L-proline. It is added a composition with acid groups present. There is no indication that sufficient L-proline is added for the overcoating layer to remain basic in the presence of the polymeric acid present, the requirement is that the composition be comprised of a basic compound, i.e. a base. There is no clear requirement it remain a base in the composition. The requirement is the composition is comprised of a basic compound.

12. Claims 1-2, 4-8 and 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanabe et al (6,132,928).

The coating compositions of Examples 1-2 comprised of polyacrylic acid, water and monoethanolamine anticipates the instant coatings wherein ca basic compound is used to form the composition and is part of the composition. Also the N-octyl 2 pyrrolidone is a basic

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substance. These compositions are inherently useful in the manner set forth for the intended use by applicants in claims 1-2, 4-8 and 12-13.

13. Applicant's arguments filed July 26, 2002 have been fully considered but they are not persuasive. Applicants argue that the base is $\text{CF}_3(\text{CF}_2)_6\text{SO}_3^-$ to be considered, the examiner notes the salt is in equilibrium with the base used to form it while in solution. Thus, the base monoethanol amine is also present since the salt is always in solution as added to the polyacrylic acid. Thus the basic compound is present, the rejection stands as modified to fit amended claims.

14. Claims 14-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in Paper No. 5.

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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16. This application contains claims 14-21 are drawn to an invention nonelected with traverse in Paper No. 5. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cynthia Hamilton whose telephone number is (703) 308-3626. The examiner can normally be reached on Monday-Friday from 9:30 am to 5:00 pm.

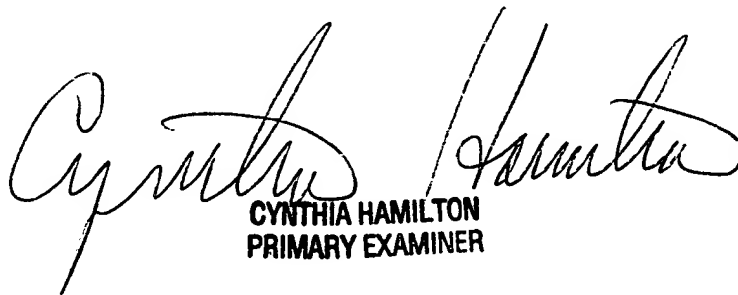
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Baxter, can be reached on (703) 308-2303. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications..

Any inquiry of papers not received regarding this communication or earlier communications, or of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service Center of Technology Center 1700 whose telephone number is (707) 308-5665.

Cynthia Hamilton/ng

November 18, 2002

Corrected November 21, 2002(ch)



CYNTHIA HAMILTON
PRIMARY EXAMINER